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IN THE UNITED STATES PATENT AND TRADEMARK-OFFICE

In Re the Application of:

BAR-OR et al.

Serial No.: 10/076,071

Filed: February 13, 2002

Atty. File No.: 4172-3-2

For: METAL-BINDING COMPOUNDS

AND USES THEREFOR

Commissioner of Patents Washington, D.C. 20231

Group Art Unit: 1614

Examiner:

INFORMATION DISCLOSURE STATEMENT

CERTIFICATE OF MAILING

SHERIDAN BOSS P.C.

BY: Jutiles Busell

Dear Sir:

Pursuant to Applicants' duty of disclosure under 37 CFR § 1.56 and 37 CFR §§ 1.97-1.98, Applicants hereby submit the enclosed PTO Form 1449. Certain of the documents identified herein were of record in U.S. Patent Application Serial No. 09/678,202, and since the above-identified patent application is a continuation thereof, copies of such documents are not being submitted under 37 CFR § 1.98(d). Applicants do not admit that any of such documents, alone or in any combination, are considered to be material to patentability as defined in 37 CFR § 1.56(b). Moreover, the inclusion of these documents is not to be construed as an admission by Applicants that each such document is prior art as to the above-identified patent application.

Respectfully submitted,

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Date: June 14, 2002

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ATTY. DOCKET NO. 4172-3-2

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U.S. PATENT DOCUMENTS

PATENT 8

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROP.
	1	6,084,093	7/4/00	Riley et al.	540	465	
	2	6,083,758	7/4/00	Imperiali et al.	436	73	
	3	6,022,879	2/8/00	Crow et al.	514	319	
	4	6,017,888	1/25/00	Pallenberg et al.	514	19	
	5	6,004,953	12/21/99	Volpin et al.	514	185	
	6	5,994,339	11/30/99	Crapo et al.	514	185	
	7	5,922,761	7/13/99	Lai	514	476	
	8	5,906,996	5/25/99	Murphy	514	674	
	9	5,888,522	3/30/99	Pickart	424	401	
	10	5,874,573	2/23/99	Winchell et al.	540	465	
	11	5,858,993	1/12/99	Pickart	514	60	
	12	5,807,535	9/15/98	Smith et al.	424	1.65	
	13	5,786,335	7/28/98	Cody et al.	514	17	
	14	5,785,948	7/28/98	Itaya et al.	424	1.69	
	15	5,780,594	7/14/98	Carter	530	363	
	16	5,776,892	7/7/98	Counts et al.	514	11	
	17	5,770,178	6/23/98	Itaya et al.	424	1.69	
	18	5,739,395	4/14/98	Bergeron, Jr.	562	565	
	19	5,710,172	1/20/98	Kukreja et al.	514	400	
	20	5,683,907	11/4/97	Johnson	436	518	
-	21	5,670,645	9/23/97	Johnson	546	141	
	22	5,670,627	9/23/97	Johnson	530	388.9	
	23	5,663,301	9/2/97	Johnson	530	363	
	24	5,654,160	8/5/97	Johnson	435	7.9	
	25	5,650,134	7/22/97	Albert et al.	424	1.69	
	26	5,639,624	6/17/97	Wagner et al.	435	7.92	

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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APPLICANT

BAR-OR et al.

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1614

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATI
	27	5,637,578	6/10/97	Riley et al.	514	186	
	28	5,637,311	6/10/97	Pallenberg	424	434	
	29	5,631,172	5/20/97	Johnson	436	543	
	30	5,628,982	5/13/97	Lauffer et al.	424	9.363	
	31	5,624,900	4/29/97	Suda et al.	514	13	
	32	5,591,711	1/7/97	Koyama et al.	514	6	
	33	5,585,466	12/17/96	Carter	530	363	
	34	5,554,375	9/10/96	Pickart	424	401	
	35	5,550,183	8/27/96	Pickart	514	6	
	36	5,538,945	7/23/96	Pallenberg et al.	514	6	
	37	5,527,522	6/18/96	Lauffer et al.	424	9.362	
	38	5,503,987	4/2/96	Wagner et al.	435	7.94	
	39	5,476,939	12/19/95	Johnson	546	141	
	40	5,470,876	11/28/95	Proctor	514	492	
	41	5,455,229	10/3/95	Hahn et al.	514	18	
	42	5,422,096	6/6/95	Lauffer et al.	424	9.363	
	43	5,382,431	1/17/95	Pickart	424	401	
	44	5,380,747	1/10/95	Medford et al.	514	423	
	45	5,348,943	9/20/94	Pickart	514	18	
	46	5,290,519	3/1/94	Bar-Or et al.	522	61	
	47	5,252,559	10/12/93	Kronholm et al.	514	18	
	48	5,227,307	7/13/93	Bar-Or et al.	436	63	
	49	5,214,032	5/25/93	Pickart	514	16	
	50	5,177,061	1/5/93	Pickart	514	18	
	51	5,164,367	11/17/92	Pickart	514	6	
	52	5,145,838	9/8/92	Pickart	514	18	
	53	5,135,913	8/4/92	Pickart	514	16	

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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GROUP ART

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*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROP.
	54	5,120,831	6/9/92	Pickart	530	331	
	55	5,118,665	6/2/92	Pickart	514	6	
	56	5,104,865	4/14/92	Hider et al.	514	188	
	57	5,101,041	3/31/92	Troutner et al.	548	518	
	58	5,087,696	2/11/92	Parker et al.	540	465	
	59	5,059,588	10/22/91	Pickart	514	12	
	60	5,023,237	6/11/91	Pickart	514	18	
	61	4,912,118	3/27/90	Hider et al.	514	332	
	62	4,877,770	10/31/89	Pickart	514	18	
	63	4,810,693	3/7/89	Pickart	514	18	
	64	4,767,753	8/30/88	Pickart	514	18	
	65	4,760,051	7/26/88	Pickart	514	6	
	66	4,746,649	5/24/88	Raddatz et al.	514	18	
	67	4,684,624	8/4/87	Hosobuchi et al.	514	15	
	68	4,665,054	5/12/87	Pickart	514	18	
	69	4,591,648	5/27/86	Jones et al.	548	344	
	70	4,461,724	7/24/84	Konishi	260	112.5	
	71	4,025,499	5/24/77	Thomas	260	112.5	

FOREIGN PATENT DOCUMENTS

	DOCUMENT				SUB CLASS	TRANSLATION	
	NUMBER	DATE	COUNTRY	CLASS		YES	NO
72	WO 00/20840	4/2000	PCT				
73	WO 00/20454	4/2000	PCT				
74	WO 99/45907	9/1999	PCT				81
75	WO 99/39706	8/1999	PCT				

EXAMINER

DATE CONSIDERED

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INFO	RMATION DISCLOSU (Use several sheets if	APPLICANT BAR-OR et al.					
		11 JULY BE		GROUP ART	1614		
		P	ATENT & THE				
76	WO 98/54138	12/1998		PCT			
77	EP 0613560 B1	10/1998		EPO			
78	WO 98/40071	9/1998		PCT			
79	WO 97/49409	12/1997		PCT			
80	WO 97/44313	11/1997		PCT			
81	719790	12/1995		EPO			
82	WO 94/26295	11/1994		PCT			
83	WO 93/23425	11/1993		PCT			
84	WO 93/10459	5/1993		PCT			
85	WO 91/17760	11/1991		PCT			
86	327263	1/1989		EPO			
87	JP 62116565	5/1987		Japan			
88	WO 00/21941	4/20/00	PCT				

OTHER ART (Including Author, Title, Date, Pertinent Pages, etc.)

	89	"Angiogenesis Inhibitors," found at http://www.cancerprotocol.com/angiogenesis_inhbitiors.html, January 28, 2002, 1 page			
L.	90	"Metal Heads," from New Scientist, 26/8/00, found at http://purdeyenvironment.com/Full%20New%20scientist0001.htm, 6 pages			
	91	al-Binding Groups of Proteins: A. Evidence for Specific Donor Atoms," Chapter IV, pp. 61-99			
	92	"The Role of Copper in the Angiogenesis Process," found at http://www.cancerprotocol.com/role_of_copper.html, January 28, 2002, 2 pages			
	93	"Toxicity and Physicochemical Properties of Metal: Coordination and Chelation," Ch. 4, pp. 115-122			
	94	Adman, Advances in Protein Chemistry, 42:145-197 (1991)			
	95	Afans'ev, Superoxide Ion: Chemistry and Biological Implications, Vol. I, pp. 26, 51, 147, 168-196, 248-266 (CRC Press, Boca Raton, FL) (1989)			
	96	Aitken, Mol. Biotech., 12:241-253 (1999)			
	97	Ames et al., <i>Proc. Natl. Acad. Sci. USA</i> , 90 :7915-7922 (1993)			
	98	Atanasiu et al., Mol. Cell. Biochem., 189:127-135 (1998)			
	99	Atwood et al., J. Biol. Chem., 273(21):12817-12826 (1998)			

EXAMINER	DATE CONSIDERED
*EXAMINER: Initial if reference considered, whether or not citation is in confinot considered. Include copy of this form with next communication to applica	ormance with MPEP 609; Draw line through citation if not in conformance and ant.

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INFORMATION DISCLOSURE STATEMENT
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ATTY. DOCKET NO. 4172-3-2 SERIAL NO. 10/076,071

APPLICANT

BAR-OR et al.

FILING DATE
February 13, 2002

GROUP ART

1614

	100	Aust, Bibl. Nutr. Dieta. Basel, Karger, No. 43, pp. 266-277 (1989)
	101	Bal et al., Chem. Res. Toxicol., 10(8):906-914 (1997)
	102	Bal et al., Chem. Res. Toxicol., 10:915-921 (1997)
سد	103	Bar-Or et al., Biochem. Biophys. Res. Commun., 284:856-862 (2001)
	104	Bar-Or et al., <i>Biochem. Biophys. Res. Commun.</i> , 282 :356-360 (2001)
	105	Bar-Or et al., Free Rad. Biol. Med., 32(2):197-199 (2002)
	106	Bar-Or et al., abstr. P416 in American Peptide Society "Abstract Book" from 17th American Peptide Symposium, San Diego, California, June 2001
_/	107	Bar-Or et al., <i>Biochem. Biophys. Res. Commun.</i> , 290 :1388-1392 (2002)
	108	Bar-Or et al., text of poster presented at 17th American Peptide Symposium, San Diego, California, June 2001, found at http://www.5z.com/aps/, 2/19/02
	109	Beaulieu et al., J. Cerebral Blood Flow and Metabolism, 18:1022-1031 (1998)
	110	Belayev et al., <i>J. Neurotrauma</i> , 16 (6):445-453 (1999)
	111	Boggs, "Copper chelation suppresses experimental liver tumor growth," found at http://www.huntsmancancer.org/content/reuters. 2001/12/21/200112221scie001.html, January 28, 2002
	112	Bossu et al., Inorganic Chemistry, 17(4):1034-1042 (1978)
	113	Bourdon et al., FASEB J., 13:233-244 (1999)
	114	Buranaprapuk et al., Biochim Biophys Acta, 1387:309-316 (1998)
	115	Calabrese et al., <i>Biochem. J.</i> , 238 :291-295 (1986)
	116	Canters et al., FEBS, 325(1,2):39-48 (1993)
	117	Chakrabarti, Protein Engineering, 4(1):57-63 (1990)
	118	Chan et al., <i>Eur. J. Biochem.</i> , 227 :524-528 (1995)
	119	Cotelle et al., J. Inorganic Biochemistry, 46:7-15 (1992)
	120	Das et al., Methods in Enzymology, 233:601-611 (1994)
	121	Davies, J. Biol. Chem., 262(20):9902-9907 (1987)
	122	Davies, J. Biol. Chem., 262(20):9895-9901 (1987)
	123	Davies, J. Biol. Chem., 262(20):9914-9920 (1987)
	124	Davies, J. Biol. Chem., 262(20):9908-9913 (1987)
	125	Duchette et al., "Copper Reduction Therapy as an Antiangiogenic Treatment for Lymphoma and other Cancers," found at

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT Co.
(Use several sheets if necessary)

ATTY. DOCKET NO. 4172-3-2 SERIAL NO. 10/076,071

APPLICANT BAR-OR et al.

FILING DATE February 13, 2002 **GROUP ART**

1614

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1814

7 - 1	126	Dunphy et al., Am. J. Physiol., 276:H1591-H1598 (1999)
	127	Farkas et al., J. Chem. Soc. Dalton Trans., pp. 611-614 (1984)
	128	Florence, Australian and New Zealand J. Opthamol., 23(1):3-7 (1995)
	129	Fu et al., Biochem. J., 333:519-525 (1998)
	130	Gutteridge et al., Biochim. Biophys. Acta, 759:38-41 (1983)
	131	Halliwell et al., Arch. Biochem. Biophys., 246(2):501-514 (1986)
	132	Halliwell et al., "Free Radicals in Biology and Medicine" pp. 1-21 (2nd ed. Clarendon Press - Oxford 1989)
	133	Halliwell et al., Arch. Biochem. Biophys., 280(1):1-8 (1990)
1	134	Harford et al., Acc. Chem. Res., 30:123-130 (1997)
	135	He et al., Biochemistry, 38:9704-9711 (1999)
-	136	Hirose et al., Biochim. Biophys. Acta, 1296:103-111 (1996)
	137	Hisatomi et al., Transplantation, 52(4):754-755 (1991)
	138	Huh et al., Brain Res., 804:105-113 (1998)
	139	Karck et al., J. Heart Lung Transplant, 11:979-85 (1992)
	140	Keller et al., Chem. Res. Toxicol., 6:430-433 (1993)
	141	Kerr et al., Heart Lung, 25:200-9 (1996)
	142	Khan et al., Biochem. Pharmacol., 43(9):1963-1967 (1992)
	143	Kimoto et al., Cancer Res., 43(2):824-828 (1983) Abstr. in PubMed- PMID: 6293704
	144	Knight, Ann. Clin. Lab. Sci., 25(2):111-121 (1995)
	145	Koch et al., Chemistry & Biology, 4:549-560 (1997)
	146	Kowalik-Jankowska et al., "Copper(II) Complexes with Oligopeptides Containing Serine, Methionine or Phenylalanine Residues" pp. 1184-1197 (9/24/1992)
	147	Kowalik-Jankowska et al., J. Inorg. Biochem., 66:193-196 (1997)
	148	Kruck et al., Can. J. Chem., 54:1300-1308 (1976)
	149	Lappin et al., Inorganic Chemistry, 17(6):1630-1634 (1978)
} <u>;</u> ,	150	Lau et al., Biochem J., 257 (3) 745-750 (1989) Abstr. in PubMed- PMID: 2467660
	151	Laussac et al., Biochemistry, 23:2832-2838 (1984)
	152	Leeuwenburgh et al., Am J. Physiol., 274:R453-R461 (1998)
	153	Legrand et al., <i>Biochimie</i> , 70 :1185-1195 (1988)
	154	Little et al., Neurosurgery, 9(5):552-558 (1981)
	155	Loban et al., Clinical Science, 93:445-451 (1997)

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DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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SERIAL NO. 10/076,071

APPLICANT

BAR-OR et al.

FILING DATE February 13, 2002 **GROUP ART**

1614

	156	Machonkin et al., <i>Biochemistry</i> , 37 :9570-9578 (1998)
	157	Malins et al., Proc. Natl. Acad. Sci USA, 93:2557-2565 (1996)
	158	Malmström et al., Curr Op. Chem. Biol., 2:286-292 (1998)
	159	Manso, Rev. Port. Cardiol., 11(11):997-999 (1992)
	160	Maret et al., Methods in Enzymology, 226:52-71 (1993)
	161	Marx et al., Biochem. J., 236:397-400 (1985)
	162	Masuoka et al., J. Biol. Chem., 268(29):21533-21537 (1993)
	163	McGuirl et al., Curr. Op. Chem. Biol., 3:138-144 (1999)
	164	Miller et al., Arch. Biochem. Biophys., 295(2):240-246 (1992)
	165	Mlynarz et al., "α-Hydroxymethylserine (HMS) Makes HMS-HMS-His the Most Efficient Tripeptide Ligand for Cu ²⁺ Ions" (1998) Speciation 98:Abstract
	166	Musci et al., Arch. Biochem. Biophys., 306(1):111-118 (1993)
	167	Odeh, N Eng. J. Med, 324(20):1417-1422 (1991)
	168	Praticò et al., J. Clin. Invest., 100(8):2028-2034 (1997)
	169	Predki et al., Biochem. J., 287:211-215 (1992)
	170	Quinlan et al., J. Pharm. Sci., 81(7):611-614 (1992)
	171	Rao et al., Ann. Thorac. Surg., 52:908-12 (1991)
	172	Regan, Annu. Rev. Biophys. Biomol. Struct., 22:257-81 (1993)
	173	Regan, TIBS 20, pp. 280-285 (1995)
,	174	Remmers et al., Brain Research, 827:237-242 (1999)
	175	Rosenthal et al., Free Radical Biology & Medicine, 12:29-33 (1992)
	176	Röth, Acta Chirurgica Hungarica, 36(1-4):302-305 (1997)
	177	Rupp et al., Biochim. Biophys. Acta., 446:151-165 (1976)
	178	Russell et al., Free Radical Biology & Medicine, 25(2):153-159 (1998)
	179	Rylkov et al., <i>Eur. J. Biochem.</i> , 197 :185-189 (1991)
	180	Sadler et al., Eur. J. Biochem., 220:193-200 (1994)
	181	Salvemini et al., Science, 286:304-306 (1999)
	182	Si et al., GLIA, 21:413-418 (1997)
	183	Smith et al., J. Histochem. Cytochem., 46:731-735 (1998)
	184	Spencer et al., J. Cardiovasc. Pharmacol., 32(3):343-348 (1998)
	185	Stohs, J. Basic & Clin. Physiol. Pharmacol., 6(3-4):205-229 (1995)

EXAMIN	ER
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DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Includ copy of this form with next communication to applicant.

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	No. 10 and 10 an	FILING DATE February 13, 2002	GROUP ART 1614
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/	186	Sutherland et al., abstr. P078 in Abstracts of Communications to be presented at the 10th International Congress on Cardiovascular Pharmacotherapy, Kyoto Japan, March 2001
<u>_</u>	187	Sutherland et al., J. Cardio. Pharmacol., 39:722-728 (200-2)
	188	Süzer et al., <i>Pharmacol. Res.</i> , 37 (2):97-101 (1998)
	189	Ueda et al., Chem. Pharm. Bull., 43(2):359-361 (1995)
	190	Ueda et al., Free Radical Biology & Medicine, 18(5):929-933 (1995)
	191	Ueda et al., J. Inorgan. Biochem., 55:123-130 (1994)
	192	Whittal et al., Protein Science, 9:332-343 (2000)
	193	Wolff et al., TIBS 11, pp. 27-31 (1986)
	194	Wysocki et al., Coronary Artery Disease, 4:645-647 (1993)
	195	Yamada et al., Biochem. Mol. Biol. Intl, 46(4):733-738 (1998)
	V	Yoon et al., J. Surg Res, 46 :163-165 (1989)

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.